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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,598	10/18/2005	Shinichi Okada	80390(47762)	6004

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EXAMINER	
NGUYEN, VU ANH	

ART UNIT	PAPER NUMBER
1796	

MAIL DATE	DELIVERY MODE
04/10/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/553,598	OKADA ET AL.	
	Examiner	Art Unit	
	Vu Nguyen	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Acknowledgement is made of the Amendment filed 01/30/2009, wherein claim 4 has been amended and new claims 11 and 12 have been added. Claims 1-12 are pending in this application.

Claim Objections

2. Claims 7 and 12 are objected to because of the following informalities: In claim 7, lines 2 and 3, the term "compound" is in improper form. In claim 12, last line, the phrase "an alkyl group" should be preceded with "or". Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waki (WO 99/52966) in view of Hendi (EP 0,790,281 B1). *Notes: Document US 7,008,994 B1 is being relied upon as an English equivalent of the document WO 99/52966.*

Regarding claims 1-3, 5-9, 11 and 12:

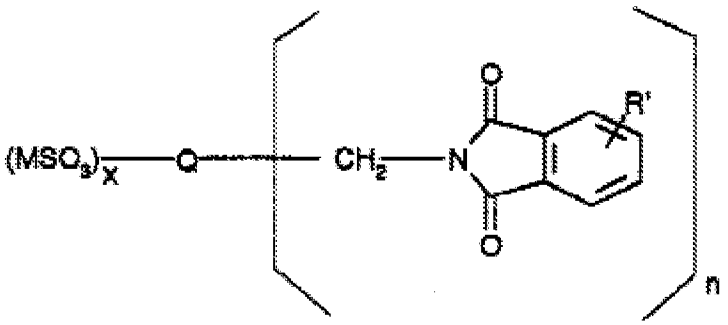
6. Regarding the limitations set forth in these claims, Waki teaches aqueous pigment dispersion, process for producing the same, and water-based ink comprising the same (Title). The process comprises kneading a mixture containing a styrene-(meth)acrylic acid resin (col. 3, lines 58-67), a pigment, and a high-boiling solvent, followed by dispersing the mixture in an aqueous medium (Examples 1-2). The pigment comprises quinacridone-based pigments such as pigment red 112 (col. 4, line 61). The resin has an acid value of 30-300 and a M_n of 2,000-20,000 (col. 4, line 21). It is reasonable to expect such molecular weight to overlap the claimed range. In an example, the resin is a styrene-acrylic acid copolymer with a styrene/acrylic acid weight ratio of 88/12 (Example 1). Such resin is expected to have a T_g higher than 90°C since the T_g's of styrene homopolymer and acrylic acid homopolymer are both much greater than 90°C . The solvent comprises those often used as humectants (col. 7, lines 16-29). The resin is neutralized with an **organic amine** during or after the kneading step (col. 5, lines 53-67). The pigment dispersion is used in numerous formulations, including

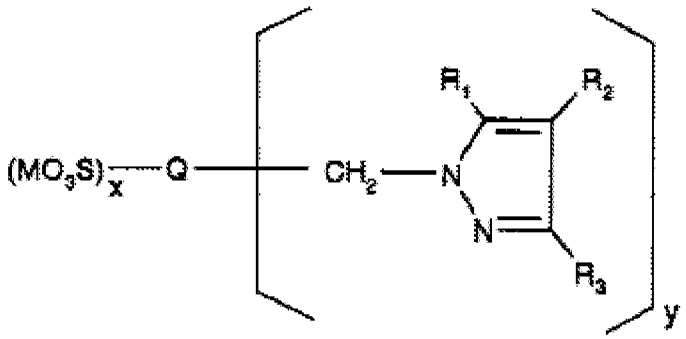
coating and inks. Also disclosed is an aqueous ink comprising the pigment dispersion, wherein the ink is an ink-jet ink (col. 10, lines 34-67; col. 11, lines 1-17).

7. Clearly, Waki teaches all the limitations set forth in these claims but fails to teach a phthalimidomethylquinacridone-based compound and a quinacridonesulfonic acid-based compound, and it uses an organic amine instead of an alkali metal hydroxide.

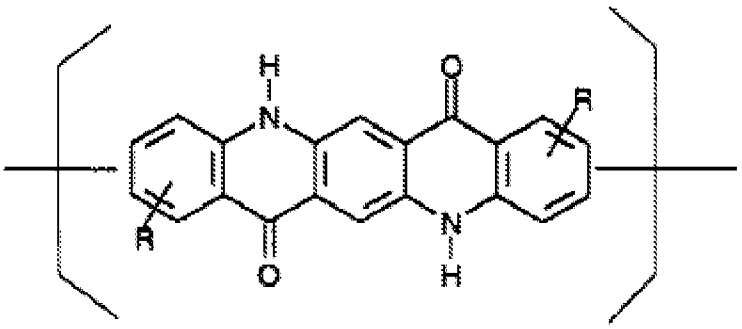
8. Regarding the claimed alkali metal hydroxide, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the method taught by Waki by replacing the organic amine with another base such as an alkali metal hydroxide for neutralizing the carboxylic acid groups of the resin since organic amine and alkali metal hydroxide are functionally equivalent and can be used interchangeably for the purpose of neutralizing carboxylic acid groups and since such replacement would not be expected to result in any critical impact to the dispersion.

9. Regarding the claimed phthalimidomethylquinacridone-based compound and quinacridonesulfonic acid-based compound, Hendi teaches a pigment composition comprising a pigment and additives that include a phthalimidomethylquinacridone and a pyrazolylmethylquinacridone [0001]. These two compounds are represented by the following structures [0006-0010]:





wherein Q is a quinacridone radical represented by



and wherein R' is H, Cl, or C1-C4 alkyl; R1, R2, R3 are independently H, halogen, unsubstituted C1-C18 alkyl, and other groups not listed here; M is H, NH_4, or metal cation; n is 1, 2, 3 or 4; x is an integer from 0 to 2; and y is 1, 2, 3 or 4. These two compounds read on the two claimed compounds. **[Motivations]** Hendi aslo discloses

that these additives provide improved rheology to pigment compositions and enhanced saturation in coating containing the pigment compositions [0001]. Further, the presence of these additives in a pigment dispersion unexpectedly results in a reduction in viscosity [0005].

10. Since both Waki and Hendi are directed to methods of preparing pigment dispersion, and considering the benefits of the additives taught by Hendi, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have included these additives in the kneading step taught by Waki so that the rheology characteristics of the dispersion mixture can be improved (e.g., lower viscosity) and the color properties (i.e., strength, hue, gloss,…) can be enhanced.

Regarding claim 4:

11. Regarding the limitations set forth in this claim, the method of claim 1 has been shown to be unpatentable over Waki in view of Hendi as discussed above. Waki discloses in one example a kneading mixture wherein the content of the resin relative to the pigment is 40% (Example 2). However, in all examples, the kneading mixture has very low solvent content (Examples 1-2). Thus, Waki differs from the claimed invention in that the disclosed kneading mixture has a lower content of humectant and higher solids content. Nevertheless, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have lowered the solids content of the disclosed kneading mixture by increasing the solvent content so as to further reduce

the kneading viscosity in order to make it easier to knead the mixture and to obtain more uniform distribution of the pigment particle size.

Regarding claim 10:

12. Regarding the limitations set forth in this claim, Waki teaches water-based ink-jet ink comprising the disclosed pigment dispersion as discussed above. Waki fails to teach a thermal jet type printer. However, since the prior art teaches an aqueous ink for general inkjet printing and it does not teach against thermal inkjet printing, it would have been obvious to a person having ordinary skill in the art the time the invention was made to have employed a thermal inkjet printer for printing the ink taught by Waki as this type of inkjet printer is popular and readily available.

Response to Arguments

13. Applicant's arguments, see Remarks, pages 5-8, filed 01/30/2009, with respect to the rejection(s) of claim(s) 1-10 under 35 U.S.C. 102(b) as being anticipated by Doi et al. (JP 2004/091590 A) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art references. Since the applicants has perfected their priority to 07/31/2003 while Doi was published on 03/25/2004, Doi is disqualified as a prior art reference against the instant invention. However, the present claims are unpatentable over the newly found prior art references as set forth above.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vu Nguyen whose telephone number is (571)270-5454. The examiner can normally be reached on M-F 7:30-5:00 (Alternating Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vu Nguyen
Examiner
Art Unit 1796

/David Wu/
Supervisory Patent Examiner, Art Unit 1796